

Math 102

Trigonometry

Catalog Description: Trigonometric ratios, circular functions and graphs, solutions of triangles, inverse trigonometric functions, identities and equations.

Prerequisites: C or better in MATH 101 or 100 or advanced placement.

Required Text and Other Materials: *Trigonometry: A Right Triangle Approach*, 5th Ed., Sullivan and Sullivan (Pearson Prentice-Hall, 2006). Calculator with minimal trigonometric functions and inverse functions. A graphing calculator is preferable.

Course Requirements: Students must attend class regularly and punctually. Students should come to class with the textbook, calculator and notebook or binder. Students are expected to take tests when they are scheduled. Exceptions are made for university related functions provided appropriate documentation is presented and arrangements are made prior to the scheduled exam. **Cell phones must be silenced and put away during class.**

Course Objectives: The goals for this course are in line with the departmental guidelines on reform and on technology-assisted teaching. Students will solve various problems algebraically, graphically, and analytically. They will also model and interpret selected data via trigonometric ratios and analytic geometry.

Course Content:

<i>Section</i>	<i>Title</i>	<i>Page</i>	<i>Assignment</i>
A.2	Geometry Review	A-20	11-30, 47-50
2.1	Angles and their Measure	113	11-22, 35-90, 91, 92, 95, 96
2.2	Right Triangle Trigonometry	126	11-60, 63, 64
2.3	Trigonometric Functions of Acute Angles	136	7-46, 65-68, 74
2.4	Trigonometric Functions of General Angles	149	11-102, 107-112
2.5	Unit Circle Approach	159	9-60, 79-82
2.6	Graphs of Trigonometric Functions	173	19-70
2.7	Graphs of Trigonometric Functions	183	
3.1	Inverse Functions, Sine, Cosine, Tangent	217	13-52
3.2	Inverse Functions, Part 2	223	9-56
3.4	Sum and Difference Formulas	239	9-38, 45-56, 71-82
3.5	Double Angle and Half-Angle Formulas	248	7-18, 69-80
3.7	Trigonometric Equations, Part 1	258	7-30, 41-46
3.8	Trigonometric Equations, Part 2	267	5-16
4.1	Applications Involving Right Triangles	279	9-22
4.2	The Law of Sines	289	9-36
4.3	The Law of Cosines	296	9-41
4.4	Area of a Triangle	302	13-24, 33, 34, 38
5.1	Introduction to Polar Coordinates	328	11-30, 39-66

Methods of Evaluation: Final grade will be determined accordingly:

- 3 tests worth 100 points each
- 1 *departmental* final exam (multiple-choice, comprehensive)

Weights of assessments:

80%	In-class assessments
20%	Final Exam

Grading Scale: 100-90%: A, 80-89%: B, 70-79%: C, 60-69%: D, < 59%: F